UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,002	06/22/2001	Robert Barham	500852000101	6765

20872 7590 01/02/2003

MORRISON & FOERSTER LLP
425 MARKET STREET
SAN FRANCISCO, CA 94105-2482

EXAMINER	
COLLINS, CYNTHIA E	
ART UNIT	**PAPER NUMBER**
1638	8

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/869,002	BARHAM ET AL.	
	Examiner	Art Unit	
	Cynthia Collins	1638	

-- The MAILING DATE of this communication appears n the c ver sheet with the corresp ndence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *54-81* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *54-81* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of the species M7007 in Paper No. 7 is acknowledged. The traversal is on the ground(s) that the technical feature linking the claims is not simply heat tolerant broccoli, but commercially acceptable heat tolerant broccoli. Applicant argues that unity of invention exists because the prior art does not teach commercially acceptable heat tolerant broccoli, such that the technical feature linking the claims is a special technical feature. This is not found persuasive because "commercially acceptable" is a relative term as set forth below, and because the prior art of Heather et al. anticipates the claimed invention as set forth below, and thus does teach heat tolerant broccoli that is commercially acceptable.

The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

An initialed and dated copy of Applicant's IDS form 1449, filed June 22, 2001, Paper No. 3, is attached to the instant Office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 54-81 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are broadly drawn to a commercially acceptable broccoli plant of any genotype or pedigree comprising a center head diameter of 3 to 8 inches at maturity when said plant is exposed to a maximum temperature of 90° F for at least 5 consecutive days during the growth cycle, a maximum temperature of 95° F for at least 1 day during the growth cycle, a maximum temperature of 85° F for at least 15 days during the growth cycle, or a maximum temperature of 80° F for at least 20 days during the growth cycle. The claims are also drawn to seed, progeny, tissue culture and regenerated plants produced by said plants.

The specification describes the characteristics of numerous specific broccoli lines, including the broccoli line corresponding to the elected species of M7007, but the specification does not describe any plant as comprising a center head diameter of 3 to 8 inches at maturity when said plant is exposed to a maximum temperature of 90° F for at least 5 consecutive days during the growth cycle, a maximum temperature of 95° F for at least 1 day during the growth cycle, a maximum temperature of 85° F for at least 15 days during the growth cycle, or a maximum temperature of 80° F for at least 20 days during the growth cycle.

Furthermore, claims 55-59, 62-66, 69-73 and 76-80 lack written description under current written description guidelines. These claims are drawn to progeny seed and plants and tissue culture derived therefrom having undisclosed identifying characteristics whereby only one parent is known. Applicant should note that no identifying characteristics are set forth for the second parent involved in seed production or for progeny seed and plants and tissue culture derived therefrom. Furthermore, given the occurrence of somaclonal variation during tissue culture, any

plant regenerated therefrom would contain mutations which would alter its phenotype. If the claimed progeny seed and plants and tissue culture derived therefrom cannot be identified by characteristics clearly disclosed in the specification, then it would be impossible to determine whether or not a plant of unknown parentage is covered by the claim. Thus progeny or hybrid plants which are not disclosed by any identifying characteristics are not considered to be possessed by Applicant. Absent further guidance, there are insufficient relevant identifying characteristics to allow one skilled in the art to predictably determine the genotypic or phenotypic characteristics of the progeny seed and plants and tissue culture derived therefrom obtained. Breeding techniques can result in genotypically and phenotypically different plants wherein the identifying characteristics for the resultant offspring are highly unpredictable, especially in view of the fact that no identifying characteristics for the second parent involved in the production of progeny seed and plants and tissue culture derived therefrom are disclosed in the specification or set forth in the claims. Accordingly, there is a lack of written description for the claimed progeny seed and plants and tissue culture derived therefrom, and in view of the level of knowledge and skill in the art, one skilled in the art would not recognize from the disclosure that the applicant was in possession of the claimed genus (see Written Description Guidelines, Federal Register, Vol. 66, No. 4, January 5, 2001, pages 1099-1111).

Claims 54-81 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims are broadly drawn to a commercially acceptable broccoli plant of any genotype and pedigree comprising a center head diameter of 3 to 8 inches at maturity when said plant is exposed to a maximum temperature of 90° F for at least 5 consecutive days during the growth cycle, a maximum temperature of 95° F for at least 1 day during the growth cycle, a maximum temperature of 85° F for at least 15 days during the growth cycle, or a maximum temperature of 80° F for at least 20 days during the growth cycle. The claims are also drawn to seed, progeny, tissue culture and regenerated plants produced by said plants. Furthermore, claim 81 is drawn to a plant exhibiting certain characteristics obtained by regeneration from a tissue culture of the plant of claim 79, which was derived from a plant exhibiting different characteristics.

The specification discloses the production of numerous specific broccoli lines, including the broccoli line corresponding to the elected species of M7007, but the specification does not disclose how to make any broccoli plant comprising a center head diameter of 3 to 8 inches at maturity when said plant is exposed to a maximum temperature of 90° F for at least 5 consecutive days during the growth cycle, a maximum temperature of 95° F for at least 1 day during the growth cycle, a maximum temperature of 85° F for at least 15 days during the growth cycle, or a maximum temperature of 80° F for at least 20 days during the growth cycle.

Guidance for making and using the invention is necessary because the phenotypic characteristics of plants are highly variable and therefore unpredictable, even under defined conditions and even for genotypically identical plants. For example, Heather et al. (J. Amer. Soc. Hort. Sci. 1992, Vol. 117, No. 6, pages 887-892, Applicant's IDS) teach variation in the head

diameter between different hybrid broccoli lines (page 888 Table 2), as well as variation in the head diameter within the same hybrid broccoli line (page 890 Figure 2).

Given the claim breadth, unpredictability and lack of guidance as discussed above, it would have required undue experimentation for one skilled in the art at the time of the invention to determine how to make broccoli plants exhibiting the claimed characteristics, or to regenerate a broccoli plant from tissue culture of the plant of claim 79 which exhibits properties of the plant of claim 68.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 54, 57-61, 64-68, 71-75 and 78-81, and claims 55-56, 62-63, 69-70 and 76-77 dependent thereon, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 54, 57-58, 60-61, 64-65, 67-68, 71-72, 74-75, 78-79 and 81 are indefinite in the recitation of "commercially acceptable", as "commercially acceptable" is a relative term that will vary depending on particular market or customer base.

Claims 54, 60, 61, 67, 68, 74, 75 and 81 are indefinite in the recitation of "at least". It is unclear how long the claimed plants may be exposed to the claimed maximum temperature and still exhibit the claimed center head diameter, as no limit is placed on the exposure time.

Claims 57, 64 and 78 are indefinite in the recitation of "the seed of claim 54 [or 61 or 78]" which lacks antecedent basis in the claims from which they depend.

Claims 59, 66, 73 and 80 are indefinite in the recitation of "tissue culture according to claim 58 [etc.]" which is confusing since the claims from which they depend are drawn to plants rather than tissue culture.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 55-59, 62-66, 69-73 and 76-80 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Heather et al. (J. Amer. Soc. Hort. Sci. 1992, Vol. 117, No. 6, pages 887-892, Applicant's IDS).

The claims are drawn to seed produced by the plants of claim 54, 62, 68 or 75, progeny seed produced from crossing the broccoli plant of claims 54, 63, 70 or 75 with another plant, a commercially acceptable broccoli plant or its parts produced from the seed of claims 54, 64, 70 or 75, a commercially acceptable broccoli plant regenerated from tissue culture of the broccoli plant of claims 54, 64, 71 or 78, tissue culture according to claims 58, 65, 72 or 80.

Heather et al. teach broccoli plants. The claimed broccoli plants differ from the prior art plants only in their method if manufacture, namely being derived from seed produced by a heat-tolerant broccoli plant crossed with any other plant, or regenerated from tissue culture thereof. Since the claims do not recite any limitations that would distinguish the claimed seed, progeny seed, plant or tissue culture from the seed, progeny seed, plant or tissue culture of other broccoli plants, the claimed seed, progeny seed, plant or tissue culture are anticipated by any prior art that teaches broccoli plants. See *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985), which teaches that a product-by-process claim may be properly rejectable over prior art teaching the same product produced by a different process, if the process of making the product fails to distinguish the two products.

Claim 61 is rejected under 35 U.S.C. 102(b) as being anticipated by Heather et al. (J. Amer. Soc. Hort. Sci. 1992, Vol. 117, No. 6, pages 887-892, Applicant's IDS).

The claim is drawn to a commercially acceptable broccoli plant comprising a center head diameter of 3 to 8 inches at maturity when said plant is exposed to a maximum temperature of 95° F for at least 1 day during the growth cycle.

Heather et al. teach XPH 5168 broccoli plants comprising a center head diameter of 3 to 8 inches (7.6 to 20.3 cm) at maturity when said plant is exposed to a maximum temperature of 95° F (35° C) for at least 1 day during the growth cycle (pages 890-891 Tables 4 and 5).

Claim 67 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Heather et al. (J. Amer. Soc. Hort. Sci. 1992, Vol. 117, No. 6, pages 887-892, Applicant's IDS).

The claim is drawn to a commercially acceptable regenerated broccoli plant comprising a center head diameter of 3 to 8 inches at maturity when said plant is exposed to a maximum temperature of 95° F for at least 1 day during the growth cycle.

Heather et al. teach broccoli plants that are not regenerated. The claimed broccoli plants differ from the prior art plants only in their method if manufacture, namely being regenerated from plants produced by regeneration of plants produced by seed produced by a heat-tolerant broccoli plant crossed with any other plant. Since the claims do not recite any limitations that would distinguish the claimed seed, progeny seed, plant or tissue culture from the seed, progeny seed, plant or tissue culture of other broccoli plants, the claimed seed, progeny seed, plant or tissue culture are anticipated by any prior art that teaches broccoli plants. See *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985), which teaches that a product-by-process claim may be properly rejectable over prior art teaching the same product produced by a different process, if the process of making the product fails to distinguish the two products.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 68-74 and 81 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,294,715. Although the conflicting claims are not identical, they are not patentably distinct from each other because the broccoli plants of claims 68-74 and 81 exhibit the same phenotypic characteristics as the broccoli plants claimed in U.S. Patent No. 6,294,715.

Remarks

No claim is allowed.

Claims 54, 60, 68, 74, 75 and 81 are deemed free of the prior art due to the failure of the prior art to teach or suggest broccoli plants comprising a center head diameter of 3 to 8 inches at maturity when said plant is exposed to a maximum temperature of 90° F for at least 5 consecutive days during the growth cycle, a maximum temperature of 85° F for at least 15 days during the growth cycle, or a maximum temperature of 80° F for at least 20 days during the growth cycle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (703) 605-1210. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (703) 306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

CC
December 26, 2002

DAVID T. FOX
PRIMARY EXAMINER
GROUP ~~180~~ 1638